

Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)**OPU-IVF and ET****EFFECT OF THE ROUTE OF ADMINISTRATION OF RECOMBINANT HUMAN FSH ON OVARIAN SUPERESTIMULATORY RESPONSE IN CALVES**

Rodrigo Martins de Moura ¹, Letícia Prates Martins ¹, Luiz Gustavo Bruno Siqueira ², Carlos Antonio Carvalho Fernandes ³, Carlos Frederico Martins ⁴, Ricardo Alamino Figueiredo ⁵, Joao Henrique Moreira Viana ^{1,5}

¹UnB - Universidade de Brasília (Brasília - DF), ²Embrapa Gado de Leite - Embrapa Gado de Leite (Juiz de Fora - MG), ³Universidade de Alfenas - Universidade de Alfenas (Alfenas - MG), ⁴Embrapa Cerrados - Embrapa Cerrados (Brasília - DF), ⁵Embrapa Recursos Genéticos e Biotecnologia - Embrapa Recursos Genéticos e Biotecnologia (Brasília - DF)

Resumo

A number of pre-stimulatory protocols using porcine FSH (pFSH) have been proposed to improve oocyte yield and *in vitro* embryo production from calves. However, results are still inconclusive. The pFSH is purified from hypophysis recovered at slaughterhouse, which results in significant variation in biological activity between drug batches. Moreover, due to its short half-life, treatments with pFSH usually require multiple injections over time. Recently, long-acting recombinant human FSH (rhFSH) formulations have been developed to induce superstimulation in women using a single-injection. The aim of the present study was to evaluate the effect of treatment route (IM or SC) on ovarian response to long-acting rhFSH in calves. Prepubertal Nelore (*Bos taurus indicus*) calves (N=10) with 205.6±4.0 days of age and 175.4±5.2 Kg of body weight were enrolled. A preliminary dose-response trial was performed to determine the dose to be used in this study as follows. The calves were randomly allocated to receive 0 to 22.5 mcg, with 2.5 mcg increments of rhFSH (Corifollitropin Alpha, Shering-Plough, Brazil), via im. Ovarian follicular development was monitored daily by ultrasonography (MyLab 30 Gold, Esaote, Italy) for five days. A videoclip was recorded from each ovary and used to measure size of individual follicles. A consistent ovarian response (measure the size of individual mean follicle diameter > 6 mm at 96h after treatment) was obtained with doses greater than 10 mcg, whereas lower doses resulted in a mean follicle diameter similar (P>0.05) to control (0 mcg). A subsequent trial has been performed to evaluate the treatment route. The calves were randomly allocated to receive 10 mcg rhFSH either SC (n=5) or IM (n=5). Follicle development was monitored by ultrasonography as previously described. Data was analyzed using the Glimmix Procedure of SAS. We did not observe an effect of route (P=0.1348) nor an interaction route x time (P=0.8336). Time after treatment affected follicle growth in both groups (P<0.0001), with the average of follicle diameter increasing from 3.6±0.1 to 7.6±0.1 mm from 0h to 96h (growth rate 1.0±0.1 mm/day). Thereafter, follicle development stabilized and no further growth occurred from 96h to 120h (7.6±0.1 vs. 7.8±0.1 mm; P>0.05). In summary, the SC route can be successfully used to induce ovarian superstimulation in calves treated with a single dose of long-acting rhFSH.